

1-25-89
12.3.8u.4

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS



LETTER OF TRANSMITTAL

TO: MIDLAND ELECTRIC INC
4311 SUNNYSIDE AVENUE
SEATTLE, WA 98103

DATE: 1/25/89

JOB # ASH GROVE

ATTENTION: BOB WITTY

WE ARE SENDING YOU ☒ ATTACHED

☐ UNDER SEPARATE COVER VIA _____

THE FOLLOWING ITEMS:

- ☐ 5100 DRAWINGS
- ☐ COPY OF LETTER
- ☐ PRINTS
- ☒ CHANGE ORDER
- ☐ PLANS
- ☐ SAMPLES
- ☒ SPECIFICATIONS
- ☐ RE. ROLL UP DOOR AND
DIESEL HAZARDS

COPIES	DATE	NO.	DESCRIPTION



THESE ARE TRANSMITTED AS CHECKED BELOW:

- | | |
|--|---|
| <input type="checkbox"/> FOR APPROVAL | <input type="checkbox"/> FOR BIDS DUE |
| <input checked="" type="checkbox"/> FOR YOUR USE | <input type="checkbox"/> PRINTS RETURNED |
| <input type="checkbox"/> AS REQUESTED | <input type="checkbox"/> APPROVED |
| <input type="checkbox"/> FOR REVIEW & COMMENT | <input type="checkbox"/> RETURNED FOR CORRECTIONS |

COMMENTS:

PREPARED BY:

SIGNED: FOR ASH GROVE

**ASH GROVE
CEMENT WEST, INC.**
3601 E. MARGINAL WAY S.

By _____ Date _____
Chkd By _____ Date _____

AGC2F000716

GASOLINE DISPENSING, SERVICE STATIONS—ARTICLE 514

ARTICLE 514 — GASOLINE DISPENSING AND SERVICE STATIONS

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514-1. Definition. A gasoline dispensing and service station is a location where gasoline or other volatile flammable liquids or liquefied flammable gases are transferred to the fuel tanks (including auxiliary fuel tanks) of self-propelled vehicles.

Other areas used as lubricatoriums, service rooms, repair rooms, offices, salesrooms, compressor rooms, and similar locations shall comply with Articles 510 and 511 with respect to electric wiring and equipment.

Where the authority having jurisdiction can satisfactorily determine that flammable liquids having a flash point below 38°C (100°F), such as gasoline, will not be handled, such authority may classify that location as nonhazardous.

(FPN): For further information regarding safeguards for gasoline dispensing and service stations, see Automotive and Marine Service Station Code, NFPA 30A-1984.

514-2.* Class I Locations. Table 514-2 shall be applied where Class I liquids are stored, handled, or dispensed and shall be used to delineate and classify service stations. A Class I location shall not extend beyond an unpierced wall, roof, or other solid partition.

Table 514-2 is essentially the same as Table 6 in NFPA 30A-1984, *Automotive and Marine Service Station Code*.

Table 514-2*. Class I Locations—Service Stations

Location	Class I, Group D Division	Extent of Class I Location
Underground Tank Fill Opening	1	Any pit, box, or space below grade level, any part of which is within the Division 1 or 2 location.
	2	Up to 18 inches above grade level within a horizontal radius of 10 feet from a loose fill connection and within a horizontal radius of 5 feet from a tight fill connection.
Vent—Discharging Upward	1	Within 3 feet of open end of vent, extending in all directions.
	2	Space between 3 feet and 5 feet of open end of vent, extending in all directions.

2 THLS
Applies
to Diesel

Table 514-2 (Continued)

Location	Class I, Group D Division	Extent of Class I Location
Dispensing Units (except overhead type)		
Pits	1	Any pit, box, or space below grade level, any part of which is within the Division 1 or 2 location.
Dispenser	1	The space within a dispenser enclosure up to 4 feet vertically above the base except that space defined as Division 2. Any space within a nozzle boot.
	2	Spaces within a dispenser enclosure above the Division 1 location. Spaces within a dispenser enclosure isolated from Division 1 by a solid partition or a solid nozzle boot but not completely surrounded by Division 1 location. Within 18 inches horizontally in all directions from the Division 1 location located within the dispenser enclosure. Within 18 inches horizontally in all directions from the opening of a nozzle boot not isolated by a vapor-tight partition, except that the classified location need not be extended around a 90 degree or greater corner.
Outdoor	2	Up to 18 inches above grade level within 20 feet horizontally of any edge of enclosure.
Indoor with Mechanical Ventilation	2	Up to 18 inches above grade or floor level within 20 feet horizontally of any edge of enclosure.
with Gravity Ventilation	2	Up to 18 inches above grade or floor level within 20 feet horizontally of any edge of enclosure.
Dispensing Units, Overhead Type	1	Within the dispenser enclosure and 18 inches in all directions from the enclosure where not suitably cut off by ceiling or wall. All electrical equipment integral with the dispensing hose or nozzle.
	2	A space extending 2 feet horizontally in all directions beyond the Division 1 location and extending to grade below this classified location.
	2	Up to 18 inches above grade level within 20 feet horizontally measured from a point vertically below the edge of any dispenser enclosure.
Remote Pump—Outdoor	1	Any pit, box, or space below grade level if any part is within a horizontal distance of 10 feet from any edge of pump.
	2	Within 3 feet of any edge of pump, extending in all directions. Also up to 18 inches above grade level within 10 feet horizontally from any edge of pump.
Remote Pump—Indoor	1	Entire space within any pit.
	2	Within 3 feet of any edge of pump, extending in all directions. Also up to 3 feet above floor or grade level within 25 feet horizontally from any edge of pump.
Lubrication or Service Room—without Dispensing	1	Any pit within any unventilated area.
	2	Any pit with ventilation.
	2	Space up to 18 inches above floor or grade level within 3 feet horizontally from a lubrication pit.
Dispenser for Class I Liquids	2	Within 3 feet of any fill or dispensing point extending in all directions.

Table 514-2 (Continued)

Location	Class I, Group D Division	Extent of Class I Location
Lubrication or Service Room—without Dispensing	2	Entire space within any pit used for lubrication or similar services where Class I liquids may be released.
	2	Space up to 18 inches above any such pit, and extending a distance of 3 feet horizontally from any edge of the pit.
Special Enclosure Inside Building (See NFPA 30A-1984, Automotive and Marine Service Station Code, Section 2-2)	1	Entire enclosure.
Bales, Storage and Rest Rooms	Ordinary	If there is any opening to these rooms within the extent of a Division 1 location, the entire room shall be classified as Division 1.
Vapor Processing Systems Pits	1	Any pit, box, or space below grade level, any part of which is within a Division 1 or 2 location or which houses any equipment used to transport or process vapors.
Vapor Processing Equipment Located Within Protective Enclosures	2	Within any protective enclosure housing vapor processing equipment.
Vapor Processing Equipment Not Within Protective Enclosures (excluding piping and combustion devices)	2	The space within 18 inches in all directions of equipment containing flammable vapor or liquid extending to grade level. Up to 18 inches above grade level within 10 feet horizontally of the vapor processing equipment.
Equipment Enclosures	1	Any space within the enclosure where vapor or liquid is present under normal operating conditions.
	2	The entire space within the enclosure other than Division 1.
Vacuum Asbest Blowers	2	The space within 18 inches in all directions extending to grade level. Up to 18 inches above grade level within 10 feet horizontally.

For SI units: one inch = 25.4 millimeters; one foot = 0.3048 meter.

514-3. Wiring and Equipment Within Class I Locations. All electric equipment and wiring within Class I locations defined in Section 514-2 shall comply with the applicable provisions of Article 501.

Exception: As permitted in Section 514-8.

514-3.1. Conductor Insulation. For special requirements for conductor insulation, see Section 501-13.

514-3.2. Conductor Protection. For gasoline and oil-resistant insulated conductors, see the commentary following Section 501-13.

514-4. Wiring and Equipment Above Class I Locations. Wiring and equipment above the Class I locations defined in Section 514-2 shall comply with Sections 511-6 and 511-7.

514-5. Circuit Disconnects. Each circuit leading to or through a dispensing pump shall be provided with a switch or other acceptable means to disconnect simultaneously from the source and supply all conductors of the circuit, including the grounded neutral, if any.

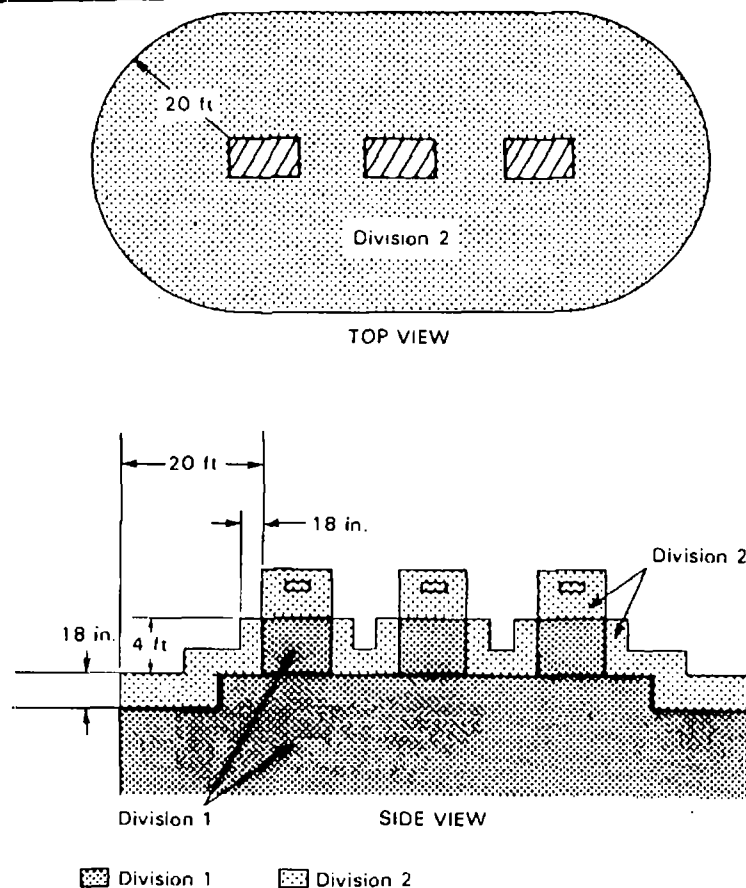


Figure 514-1 Extent of Class I location around gasoline dispensing units (except overhead type).

It is important to note that all conductors of a circuit, including the grounded conductor, that may be present within a dispensing device are required to be provided with a switch or special-type circuit breaker that will simultaneously disconnect all conductors. The intent is that no energized conductors be in the dispenser vicinity during maintenance or alteration. Considering possible accidental reversal of the polarities of conductors at panelboards, the grounded conductor must be able to be switched to the open or off position. Grounded conductors may be present in old-style pump motors, or they may pass through a dispenser as part of a circuit for the island lighting.

Since a fire or large gasoline spill at the dispensing island may make it impossible to operate the switches on the dispensing island that shut off the flow of gasoline, paragraph 4-1.2 of NFPA 30A, *Automotive and Marine Service Station Code*, requires an easily accessible and clearly identified emergency power cutoff to be provided at a location remote from the dispensing device. The term "clearly identified" means that a sign is to be posted indicating where the cutoff switch is located. This emergency power cutoff should be readily accessible and not blocked

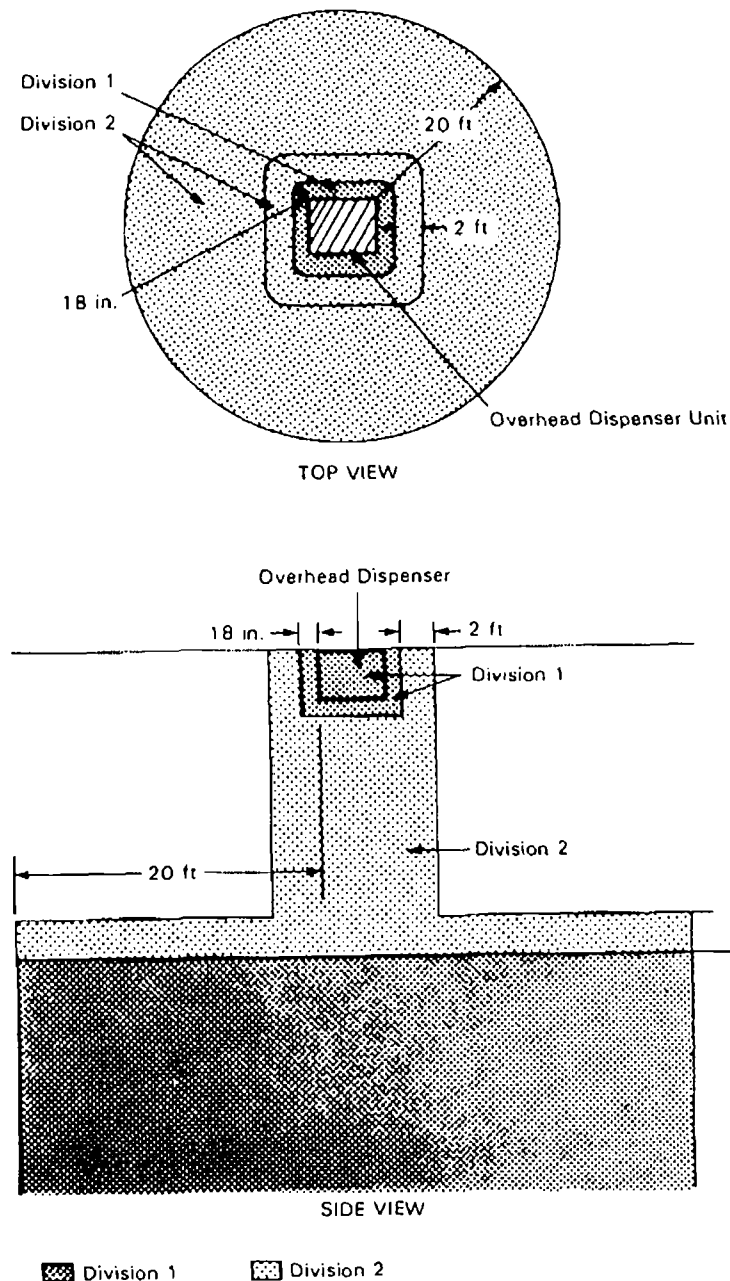


Figure 514-2 Extent of Class I location around overhead gasoline dispensing units.

by the storage of such things as tires or cases of lubricating oil. All service station operators as well as responding fire fighters should know the location of the emergency power cutoff.

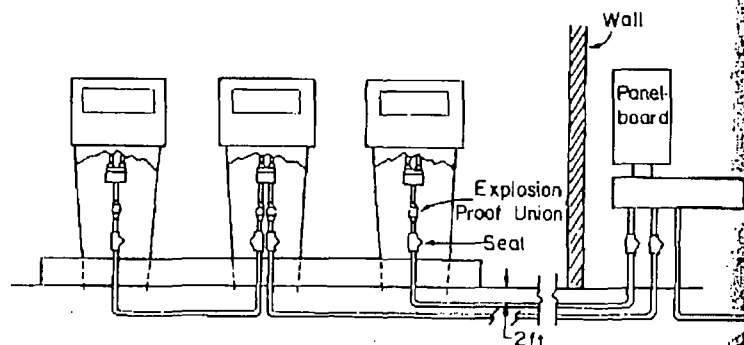


Figure 514-3 A gasoline dispensing installation indicating locations for sealing fittings.

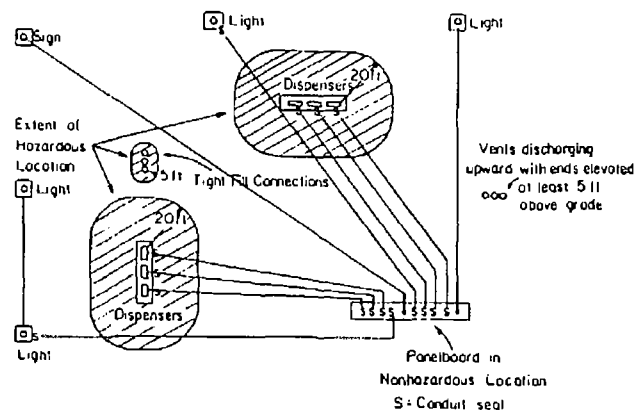


Figure 514-4. Seals are required at points marked "S." Seals are not required at the sign and two lights because conduit runs do not pass through a hazardous location.

514-8. Sealing.

(a) **At Dispenser.** An approved seal shall be provided in each conduit run entering, leaving a dispenser or any cavities or enclosures in direct communication therewith. The seal fitting shall be the first fitting after the conduit emerges from the earth or concrete.

(b) **At Boundary.** Additional seals shall be provided in accordance with Section 501-5(a)(4) and (b)(2) shall apply to horizontal as well as to vertical boundaries of defined Class I locations.

Sealing fittings are required in all conduits leaving a Class I location. All conduits passing under the boundaries of the hazardous (classified) locations [20-ft (6.1-m)

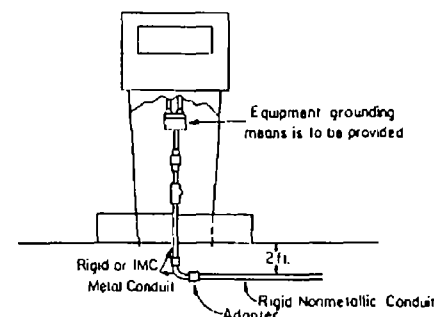


Figure 514-5. Location and permitted use of rigid nonmetallic conduit.

radius from dispenser) or the tank fill-pipe (10-ft (3.05-m) radius from a loose fill connection and 5-ft (1.52-m) radius from a tight-fill connection) are considered as being in a Class I, Division 1 location (see Section 514-8), and the seal is to be the first fitting at the point of emergence. A seal is required to be provided in each conduit run entering or leaving a dispenser, so even though a conduit runs from dispenser to dispenser and does not leave the hazardous (classified) location, a seal is necessary when leaving and again when entering the dispenser. Panelboards are generally located in a room classified as a nonhazardous location; however, any conduit coming from the dispenser, or passing under the hazardous (classified) location boundaries from the dispenser or tank fill-pipe, would require a seal at the panelboard location. Where the panelboard is located in the lube or repair room, all conduits emerging into the 18-in. (457-mm) hazardous (classified) location would require seals. See Figures 514-3 and 514-4.

514-7. Grounding. Metal portions of dispensing pumps, metal raceways, and all noncurrent-carrying metal parts of electric equipment, regardless of voltage, shall be grounded as provided in Article 250.

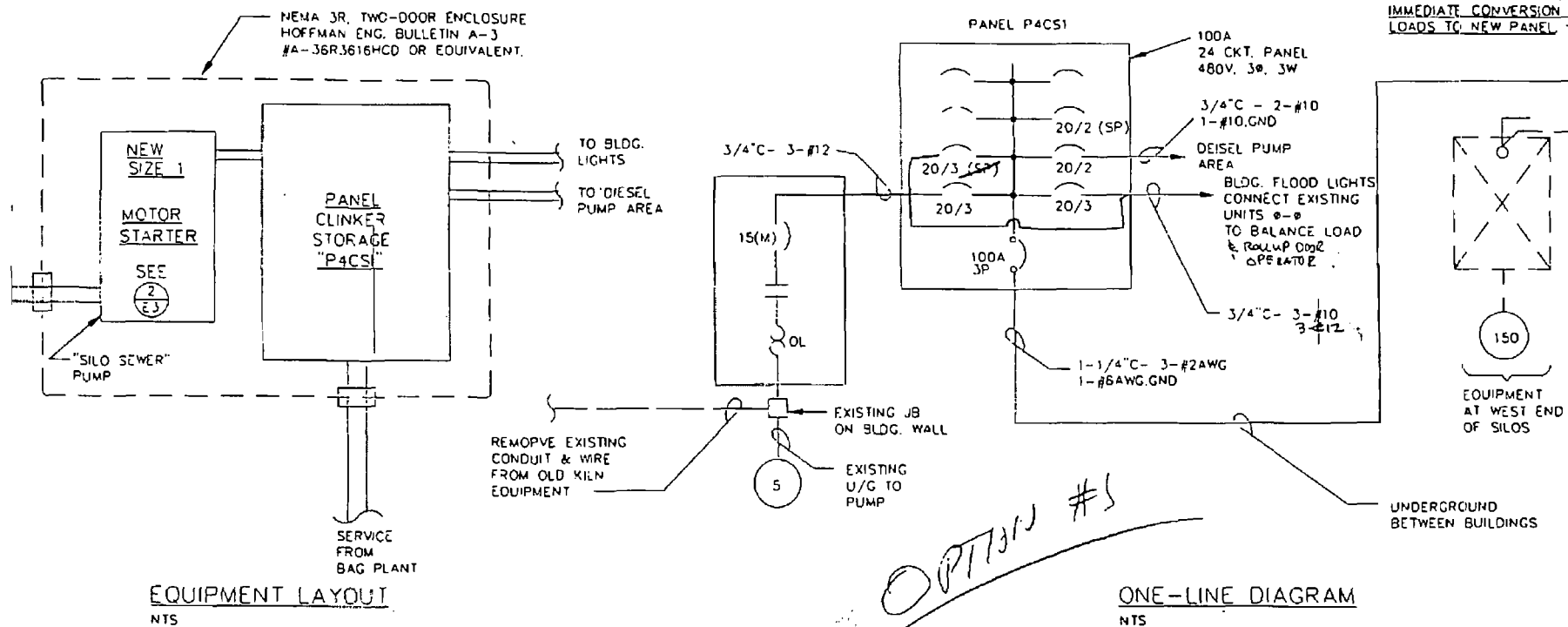
514-8. Underground Wiring. Underground wiring shall be installed in threaded rigid metal conduit or threaded steel intermediate metal conduit. Any portion of electrical wiring or equipment which is below the surface of a Class I, Division 1 or Division 2 location (as defined in Table 514-2) shall be considered to be in a Class I, Division 1 location, which shall extend at least to the point of emergence above grade. Refer to Exception No. 3 of Section 300-5(a).

Experience has shown that the fuel spilled in the vicinity of gasoline pumps in service stations tends to accumulate underground where it can enter electrical conduits and accumulate in voids. This section, therefore, classifies the space below surface areas subject to fuel spills as Class I, Division 1 locations.

Exception No. 1: Type MI cable shall be permitted where it is installed in accordance with Article 330.

Exception No. 2: Rigid nonmetallic conduit complying with Article 347 shall be permitted when buried under not less than 2 feet (610 mm) of earth. Where rigid nonmetallic conduit is used, threaded rigid metal conduit or threaded steel intermediate metal conduit shall be used for the last 2 feet (610 mm) of the underground run to emergence or to the point of connection to the aboveground raceway; an equipment grounding conductor shall be included to provide electrical continuity of the raceway system and for grounding of noncurrent-carrying metal parts.

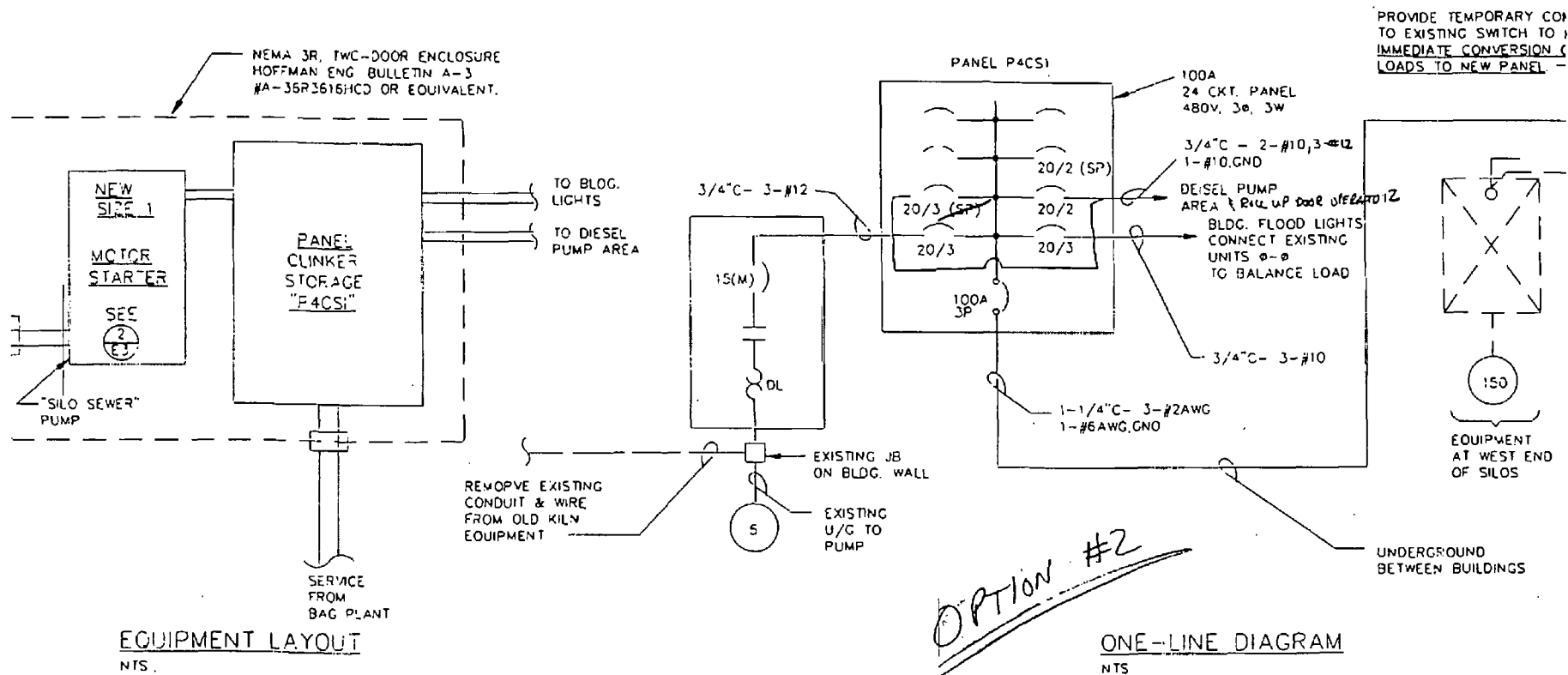
Exception No. 2 to Section 514-8 makes it clear that, if rigid nonmetallic conduit is used for underground wiring, threaded rigid metal conduit or threaded steel



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